

Cams

18/11/2015
نقطہ سائنس
مستوفی
AMP
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Types of Follower:

① Knife edge Follower.



② Flat - Follower.



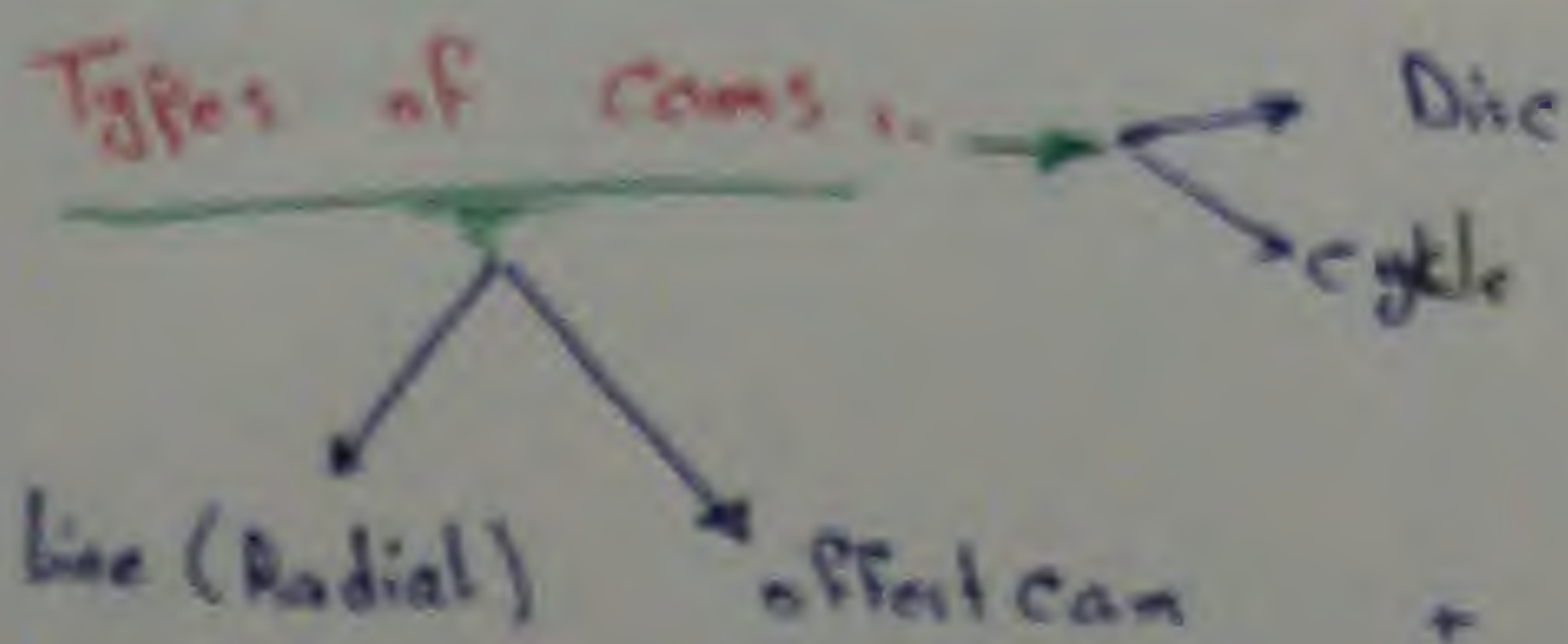
③ Roller Follower.



④ spherical Follower.



Types of cams:



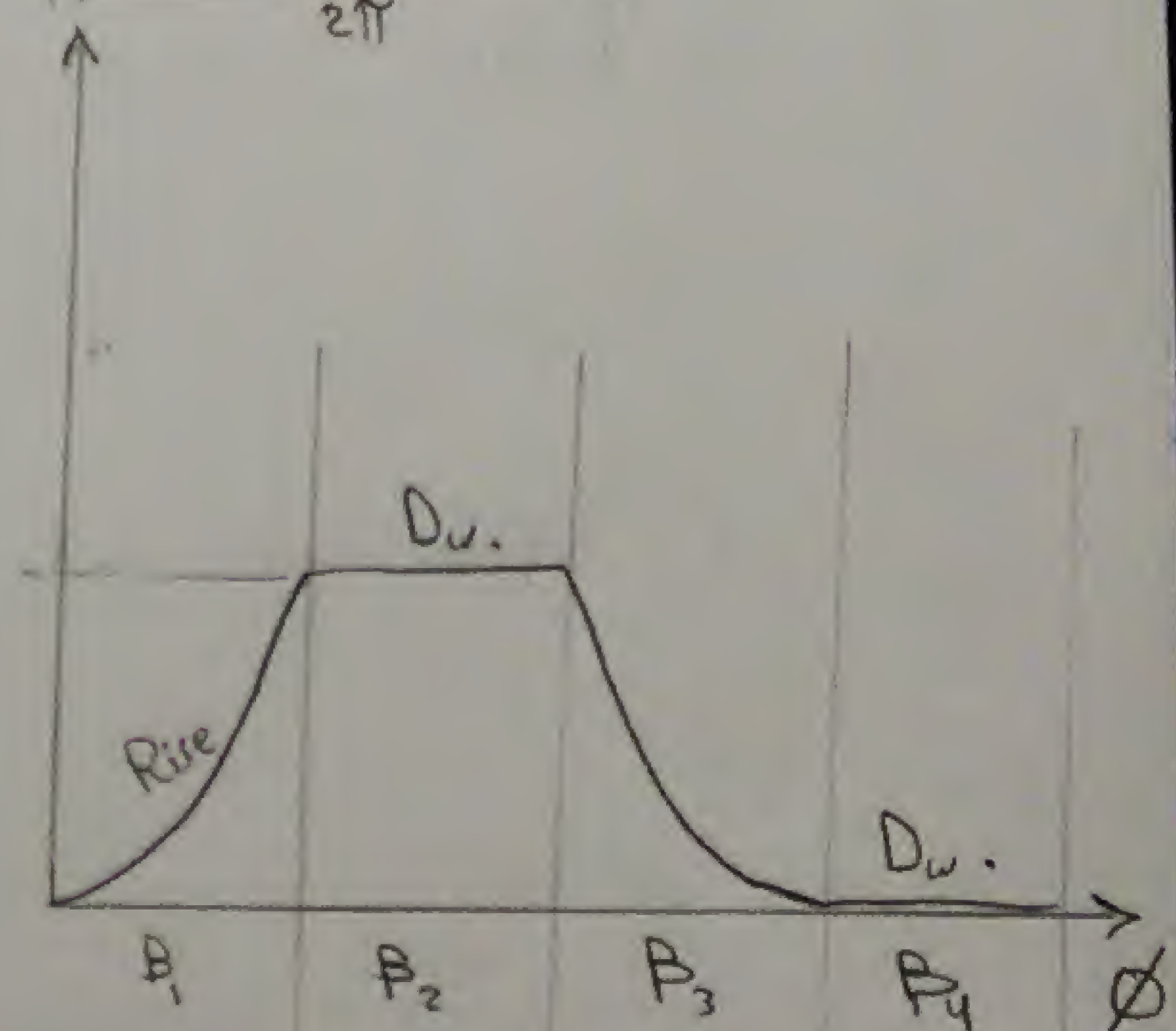
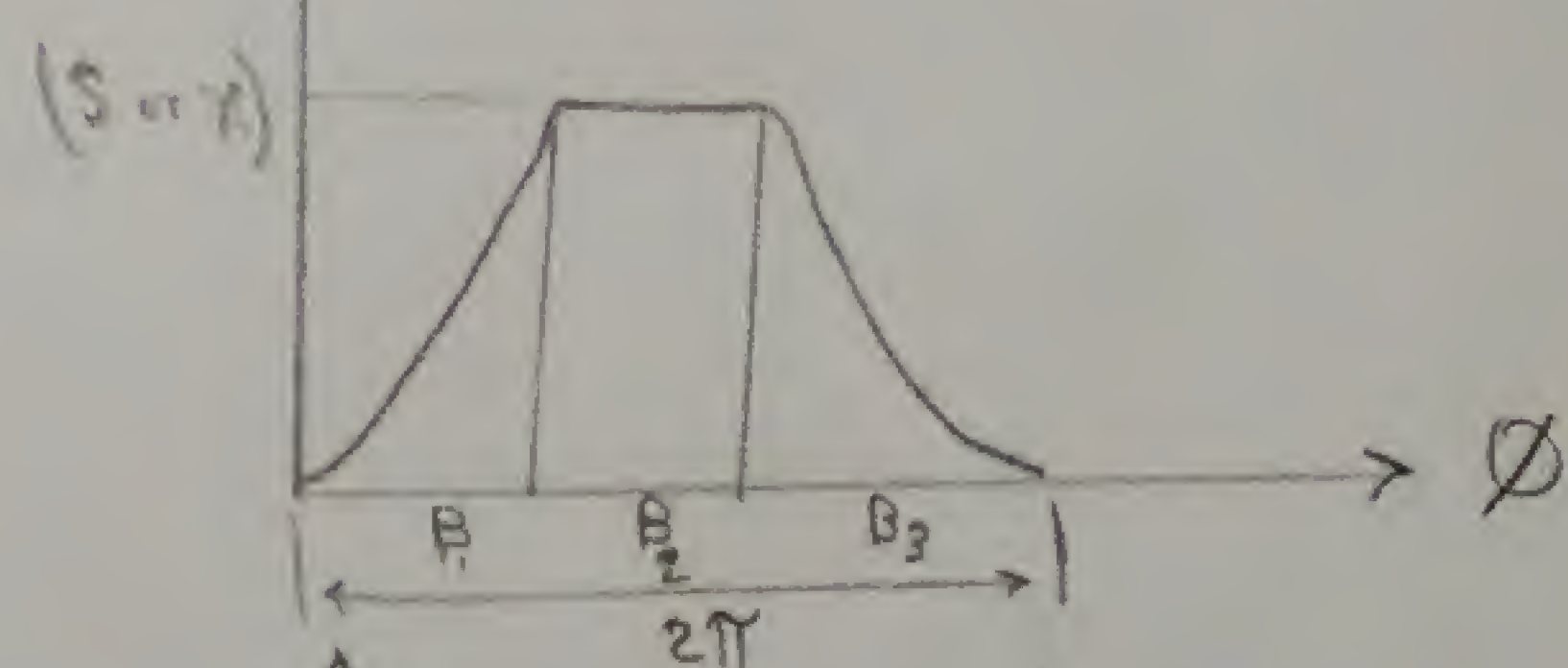
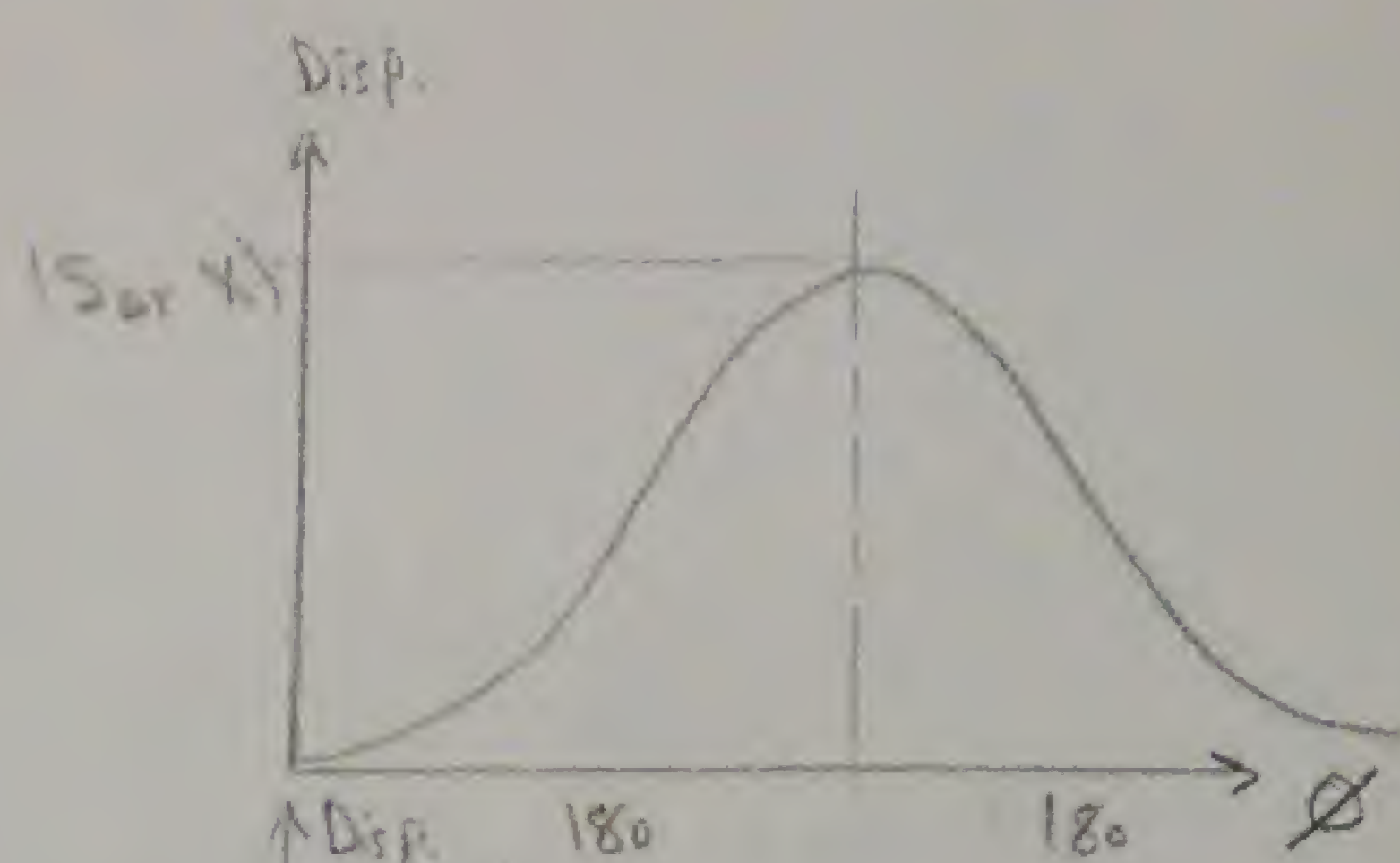
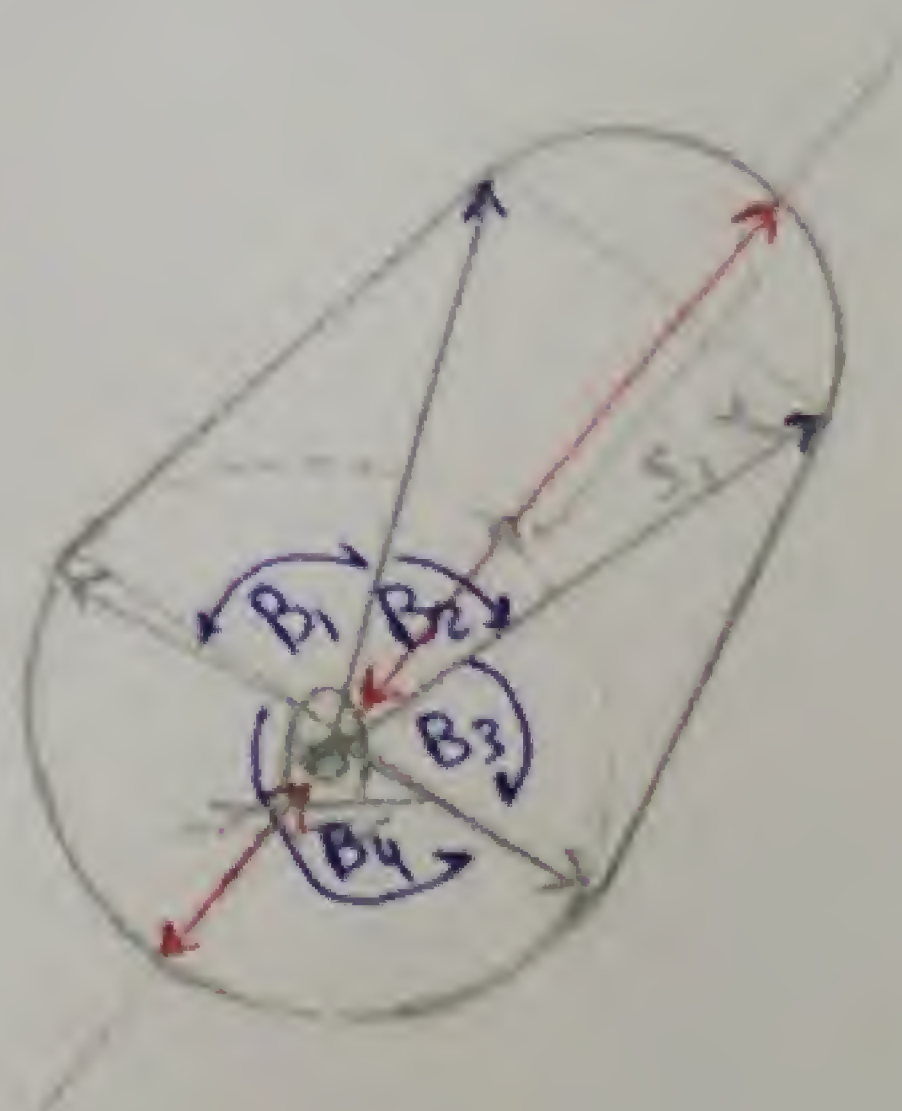
Action of Follower

Displacement time (angle)
Diagram.

s - t diagram.
x - t diagram.
s - t diagram.

6

Displacement Diagram.



Cam Follower

① Radial cam

Date

① Type of Follower.

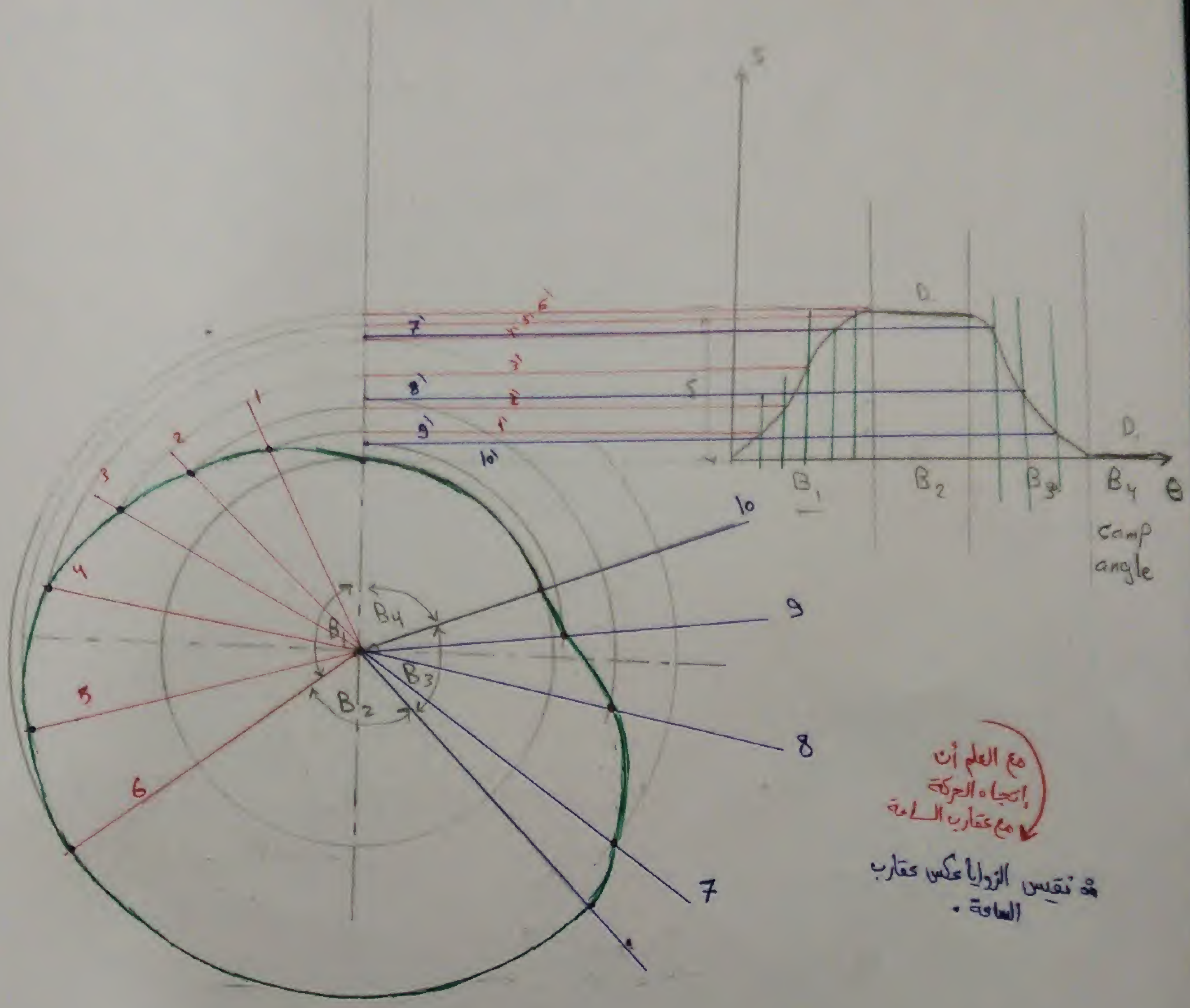
② Radial or offset cam

③ Base circle diameter

④ Disp. Diagram.

⑤ max. Disp. of Follower.

⑥ Direction of motion.



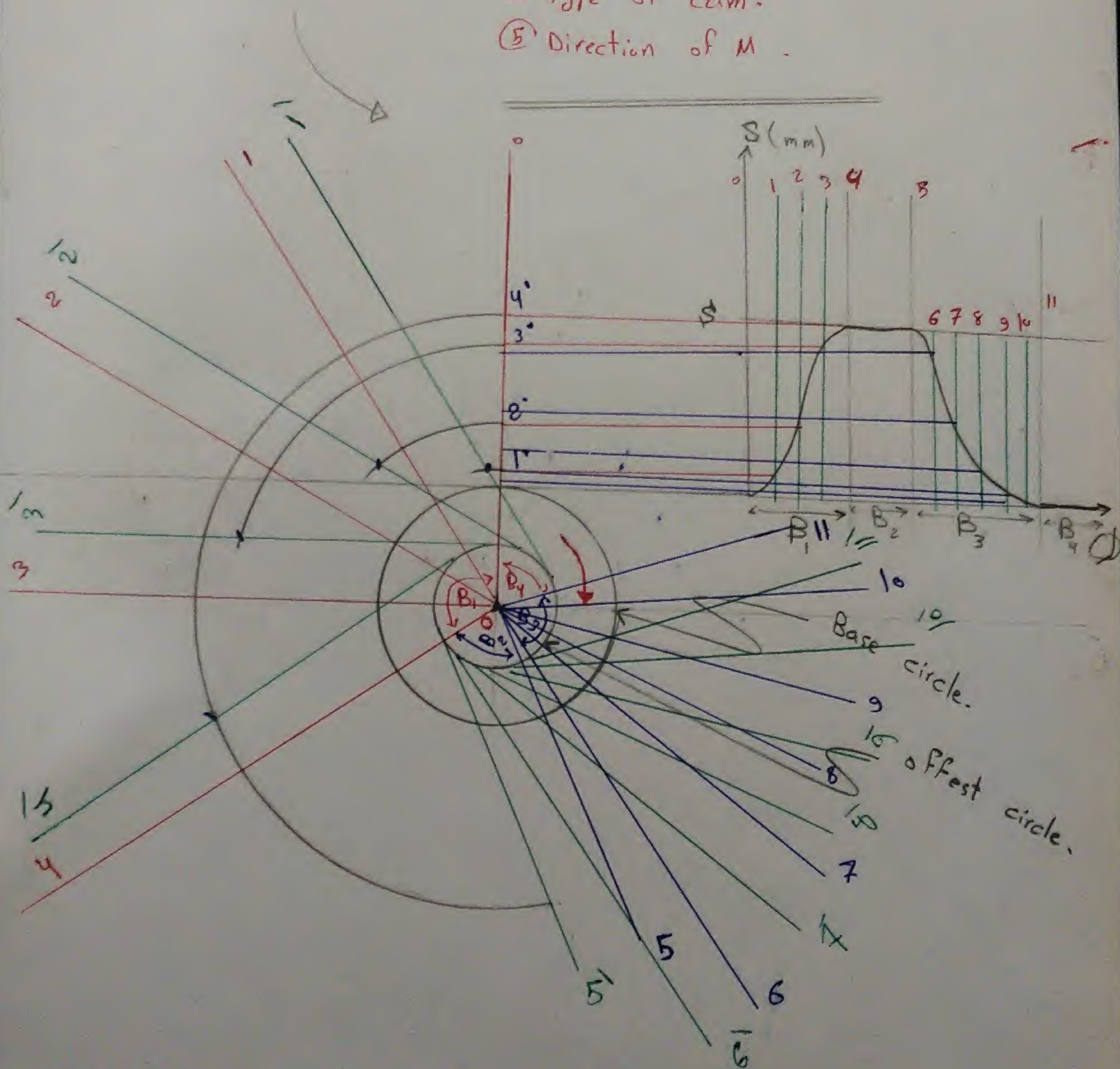
مع العلم أن
اتجاه الحركة
مع عقارب الساعة
منه نقيس الزوايا عكس عقارب
الساعة.

d

offset cam.

Date

- ① Disp. Diagram.
- ② B.e.D.
- ③ offset distance.
- ④ Type of cam.
- ⑤ Direction of M.



Cam

Prob

Make a cam profile for a knife edge follower with the following data:

- (a) Cam lift = $S = 4\text{ cm}$ during 90° cam rotation with S.H.M.
- (b) Dwell period for next 30°
- (c) Dwell for next 60° of the cam rotation, the follower returns to its original position with S.H.M.
- (d) Dwell period for rest of the rotation of the cam is 4 cm and it rotates at 240 rpm .

Determine 2- The max. velocity and acceleration of the follower during its ascend and descend

$$V_{\max} = \frac{\pi S \omega}{2\theta}$$
$$A_{\max} = \frac{\pi^2 \omega^2}{\theta^2} \times \frac{S}{2}$$

Solution

حيث أن $\theta = \beta$
بالتقدير الأثري

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